

SILANE COUPLING AGENT FOR PRODUCING MOLDED ARTICLE OF EPOXY RESIN REINFORCED WITH GLASS FIBER

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Classification:
 - international: C08L63/00; C07F7/18; C08J5/08; C08K5/54; C08K9/04
 - european:
Application number: JP19950156718 19950601
Priority number(s):

Abstract of JP8325439

PURPOSE: To obtain a silane coupling agent which is readily soluble in water and with which a molded glass-fiber-reinforced epoxy resin article having excellent soldering heat resistance can be produced in a short time, by using a specific aminosilane compound or a salt thereof.

CONSTITUTION: An aminosilane compound, N-(P-trimethyl)-γ-aminopropyltriethoxysilane hydrochloride represented by the formula (wherein R<1> is H, methyl, or ethyl; (m) is 0-3; (n) is 1-6; and R<2> is a 1-10C alkyl) is obtained, for example, by introducing 1.0mol of γ-aminopropyltriethoxysilane as a feedstock aminosilane into a reaction vessel, heating it to 60-80 deg.C, dropping 1.0mol of α-chloro-p-xylene as a halide thereinto, and reacting the mixture under stirring at 60-80 deg.C for 16hr. Methanol is added to this hydrochloride. Glass fibers are immersed in the resultant methanol solution as a surface treatment agent and then dried at 100-120 deg.C to obtain surface-treated glass fibers, which are impregnated with an epoxy resin to obtain a molded glass-fiber- reinforced epoxy resin.



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L19 ANSWER 1 OF 2 CA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 126:172736 CA

TITLE: Silane coupling agents for glass fibers and
manufacture of glass fiber-reinforced epoxy resin
moldings with improved solder-heat resistance

INVENTOR(S): Suzuki, Yoshiharu

PATENT ASSIGNEE(S): Nitto Boseki Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

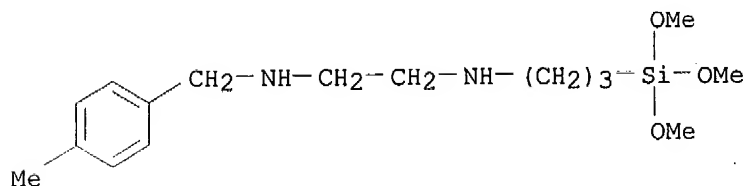
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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OTHER SOURCE(S):			MARPAT 126:172736	

AB The coupling agents comprise aminosilanes $R_1C_6H_4CH_2NH(CH_2CH_2NH)_m(CH_2)_nSi(O$
 $R_2)_3$ ($R_1 = H, Me, Et$; $R_2 = C_1-10$ alkyl; $m = 0-3$, $n = 1-6$) or their salts.
 The process comprises treating the surface of glass fibers with the
 coupling agents, followed by immersing the resulting fibers into epoxy
 resins. Thus, 1.0 mol (.gamma.-aminopropyl)triethoxysilane and 1.0 mol
 .alpha.-chloro-p-xylene reacted at 60-80.degree. for 16 h to give
 N-(p-tolylmethyl)-.gamma.-(aminopropyl)triethoxysilane hydrochloride (I),
 which was preserved as a MeOH soln. An aq. soln. contg. 0.7 part I and
 0.5 part AcOH was used to impregnate WEA 18W 105 (a glass cloth), which
 was squeezed to 28% pickup and dried at 110.degree. for 5 min to give a
 reinforcing agent. Eight prepregs comprising the reinforcement and a
 compn. comprising Epikote 5046B8 (brominated epoxy resin) 100, Epikote 154
 20, dicyandiamide 4, 2-ethyl-4-methylimidazole 0.2, MEK 15, and DMF 30
 parts were laminated and sandwiched between Cu foils at 170.degree. to
 give a Cu-clad laminate.

IT 186653-85-0P 186653-86-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)(aminosilane coupling agents for glass fiber-reinforced epoxy resin
moldings with improved solder-heat resistance)

RN 186653-85-0 CA

CN 1,2-Ethanediamine, N-[(4-methylphenyl)methyl]-N'-[3-
(trimethoxysilyl)propyl]-, hydrochloride (9CI) (CA INDEX NAME)

● x HCl

RN 186653-86-1 CA

CN 1,2-Ethanediamine, N-[(4-methylphenyl)methyl]-N'-[3-
(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

